

## 9. MERVC Costs

Monitoring and evaluation costs will depend on what information is needed, what information and resources are already available, the size of the project area, the monitoring methods to be used, and frequency of monitoring. Furthermore, some methods require high initial costs: e.g., in metering, start-up costs in terms of equipment and personnel training may make the installation of meters very expensive, while making continuous metering over time exceedingly cost effective. Based on the experience of U.S. utilities and energy service companies, monitoring and evaluation activities can easily account for 5-10% of a project's budget (see Meier and Solomon 1995; Raab and Violette 1994).

Due to the availability of funding, we realize that some project developers and evaluators will not be able to conduct the most data intensive methods proposed in this report; however, we expect each project to undergo some evaluation and verification in order to receive carbon credits (especially, certified emission reduction units). Moreover, we believe that monitored projects will save more energy and carbon and offset the cost of the monitoring because: (1) installations following a monitoring and evaluation protocol should come in near or even above the projected level of energy savings; and (2) installations with some measurement of energy savings should tend to have higher levels of energy savings initially and experience energy-saving levels that remain high during the lifetime of the measure (e.g., see Kats et al. 1996). In the end, the cost of monitoring and evaluation will be partially determined by its value in reducing the uncertainty of carbon credits: e.g., will one be able to receive carbon credits with a value greater than 10% of project costs that are spent on monitoring and evaluation?

Because of concerns about high costs, MERVC activities cannot be too burdensome: in general, the higher the costs, the less likely organizations and countries will try to develop and implement energy-efficiency projects. However, in some cases, due to the enormous cost differential between the carbon reduction options of UNFCCC Parties, fairly high costs can be accommodated before these costs become prohibitive. Nevertheless, MERVC costs should be as low as possible. In sum, actual (as well as perceived) MERVC costs may discourage some transactions from occurring. Tradeoffs are inevitable, and a balance needs to be made between project implementation and the level of detail (and costs) of MERVC reporting guidelines.

Project estimates of impacts could be adjusted, based on the amount of uncertainty associated with the estimates, without conducting project-specific analyses. Projects with less accurate or less precisely quantified benefit estimates would have their estimates adjusted and therefore have their benefits rendered policy-equivalent to credits from projects that can be more accurately quantified. As noted previously (Section 4.13.1), the U.S. Environmental Protection Agency's Conservation Verification Protocol reward more rigorous methods of verifying energy savings by allowing a

higher share of the savings to qualify for tradable SO<sub>2</sub> allowances. Thus, utilities could use a simpler evaluation method at a lower cost and receive fewer credits, or they could use a more sophisticated method and receive more credits.